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## Notice of Intended Regulatory Action (NOIRA) Agency Background Document

<b>Approving authority name</b>	State Water Control Board
<b>Virginia Administrative Code (VAC) citation</b>	9 VAC 25-720
<b>Regulation title</b>	Water Quality Management Planning Regulation
<b>Action title</b>	Amend Nutrient Waste Load Allocations in Section 720-50.C. (Potomac, Shenandoah River Basin) for the Fauquier Co. Water and Sewer Authority – Vint Hill WWTF (VPDES #VA0020460)
<b>Document preparation date</b>	July 9, 2008

This information is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA), Executive Orders 21 (2002) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

### Purpose

*Please describe the subject matter and intent of the planned regulatory action. Also include a brief explanation of the need for and the goals of the new or amended regulation.*

The purpose of this intended regulatory action is to apply an appropriate, scientifically based total nitrogen (TN) concentration value to calculate the TN waste load allocation for the Fauquier County Water and Sewer Authority (FCW&SA)-Vint Hill wastewater treatment facility.

In November 2005, the FCW&SA submitted a Petition of Appeal to the court, contesting adoption of amendments to the Water Quality Management Planning Regulation (9 VAC 25-720) by the State Water Control Board at their September 27, 2005 meeting. FCW&SA requested that the regulation be declared invalid and remanded to the Board for further proceedings.

A central point in the appeal was the basis for the Vint Hill facility's total nitrogen (TN) waste load allocation (WLA), which assumed a 3.0 mg/l annual average concentration, consistent with all other municipal significant dischargers in the Shenandoah-Potomac basin located below the fall line. One exception was the Upper Occoquan Service Authority's (UOSA) plant, which used 8.0 mg/l TN as the WLA basis. This was due to the beneficial affect this direct, nitrified discharge level has on maintaining water quality in the Occoquan Reservoir, as evidenced by extensive scientific studies. Because the Vint Hill plant also discharges into the Occoquan sub-watershed, FCW&SA contended that the same TN concentration basis should be used for their facility. The scientific studies documenting UOSA's

beneficial impact on the Occoquan reservoir did not include analysis of the Vint Hill discharge, which is approximately 22 river miles from the reservoir with a design flow only 1% the size of UOSA.

In May 2006, FCW&SA expressed their desire to settle the litigation, and negotiations began on determining the appropriate basis for the Vint Hill plant's TN WLA. It is now proposed that instead of using the rationale applied to the UOSA discharge, the same basis that was applied to municipal significant discharges located above the fall line be used for Vint Hill. This method recognizes the "delivery factor" which reduces the amount of nutrients discharged above the fall line that reach tidal waters, due to biological and chemical activity in the Shenandoah and Potomac rivers as the loads are transported downstream. For this reason, plants above the fall line in the Shenandoah-Potomac basin had 4.0 mg/l TN used as the basis for their TN allocations. The UOSA scientific studies determined that the TN delivery factor through the Occoquan Reservoir is 0.58 (i.e., 58% of the nitrogen entering the reservoir reaches the tidal Potomac). This is comparable to the TN delivery factors for plants discharging above the fall line in the Shenandoah-Potomac basin, which range from 0.44 to 0.83.

The goal of this rulemaking is to derive an equitable nutrient allocation for the Vint Hill facility that is consistent with the technical approach used for other dischargers and is protective of water quality.

**Legal basis**

*Please identify the state and/or federal legal authority to promulgate this proposed regulation, including (1) the most relevant law and/or regulation, including Code of Virginia citation and General Assembly chapter number(s), if applicable, and (2) promulgating entity, i.e., agency, board, or person. Describe the legal authority and the extent to which the authority is mandatory or discretionary.*

State mandate in § 62.1-44.15 of the Code of Virginia is the source of legal authority identified to promulgate these amendments. The promulgating entity is the State Water Control Board.

The scope and purpose of the State Water Control Law is to protect and to restore the quality of state waters, to safeguard the clean waters from pollution, to prevent and to reduce pollution and to promote water conservation. The State Water Control Law (Code of Virginia) at § 62.1-44.15(10) mandates the Board to adopt such regulations as it deems necessary to enforce the general water quality management program of the Board in all or part of the Commonwealth. In addition, § 62.1-44.15(14) requires the Board to establish requirements for the treatment of sewage, industrial wastes and other wastes that are consistent with the purposes of this chapter. Setting the specific effluent limits needed to meet the water quality goals is within the discretion of the Board.

The correlation between the proposed regulatory action and the legal authority identified above is that the amendments being considered are modifications of the current requirements for the treatment of wastewater that will contribute to the protection of Virginia's water quality. State Water Control Law (Code of Virginia) web site: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+62.1-44.15>

**Need**

*Please detail the specific reasons why the agency has determined that the proposed regulatory action is essential to protect the health, safety, or welfare of citizens. In addition, delineate any potential issues that may need to be addressed as the regulation is developed.*

FCW&SA's appeal of the Water Quality Management Planning Regulation expressed their need for the same scientifically based, underlying TN concentration assumption that was used for other municipal significant dischargers in the Shenandoah-Potomac basin to calculate a waste load allocation. While the

Vint Hill discharge is located below the physical fall line it appears that its specific location, somewhat distant from tidal waters and above several impoundments including the Occoquan with a known delivery factor, warrants a closer examination of the method used to assign an equitable allocation.

**Substance**

*Please detail any changes that will be proposed. For new regulations, include a summary of the proposed regulatory action. Where provisions of an existing regulation are being amended, explain how the existing regulation will be changed.*

The current discharged TN WLA for the FCW&SA-Vint Hill plant is 8,680 lbs/yr, based on a design flow of 0.95 MGD and a TN concentration of 3.0 mg/l. It is proposed that the concentration basis be 4.0 mg/l, resulting in a revised TN WLA of 11,573 lbs/yr. The existing Vint Hill plant is a 0.6 MGD facility, which the FCW&SA may expand to 0.95 MGD. If the expansion does not receive a Certificate to Operate by December 31, 2010, then the TN WLA will be reduced to 7,309 lbs/yr, based on a design flow of 0.6 MGD and a TN concentration of 4.0 mg/l.

Amend the Water Quality Management Planning Regulation, 9 VAC 25-720-50.C. (Potomac, Shenandoah River Basin), for the Fauquier Co. W&SA-Vint Hill facility (VPDES # VA0020460), as follows:

1. Increase the Total Nitrogen waste load allocation from 8,680 to 11,573 pounds per year.
2. Revise footnote #8 to read: “(8) Fauquier Co. W&SA-Vint Hill STP: waste load allocations (WLAs) based on a design flow capacity of 0.95 million gallons per day (MGD). If plant is not certified to operate at 0.95 MGD design flow capacity by 12/31/10, the WLAs will decrease to TN = 7,309 lbs/yr; TP = 548 lbs/yr, based on a design flow capacity of 0.6 MGD”.

In addition to these revisions, if the amendments are approved then an increase would be made to the Potomac-Shenandoah total basin TN waste load allocation from 5,156,164 to 5,159,057 lbs/yr.

**Alternatives**

*Please describe all viable alternatives to the proposed regulatory action that have been or will be considered to meet the essential purpose of the action. Also, please describe the process by which the agency has considered or will consider other alternatives for achieving the need in the most cost-effective manner.*

The following are alternatives for consideration, but DEQ staff will work in conjunction with a Technical Advisory Group, the petitioners, and other state and federal agencies (as appropriate) to find other alternatives. Alternatives provided by the public will also be considered.

Alternatives being considered by the agency include, but are not limited to, the following:

- Deny the appeal and leave the TN waste load allocation as currently listed in 9 VAC 25-720.
- Approve a revised TN allocation as proposed.
- Approve a revised TN allocation using a different concentration value, than either FCW&SA’s original appeal or as proposed, for the underlying WLA calculation factor.

The agency will consider these and other alternatives within the context of achieving water quality standards in the local receiving waters, the Potomac River and Chesapeake Bay.

## Public Participation

*Please indicate the agency is seeking comments on the intended regulatory action, to include ideas to assist the agency in the development of the proposal and the costs and benefits of the alternatives stated in this notice or other alternatives. Also, indicate whether a public meeting is to be held to receive comments on this notice.*

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The Board is seeking comments on the intended regulatory action, including but not limited to 1) ideas to assist in the development of a proposal; 2) the costs and benefits of the alternatives stated in this background document, or other alternatives; and 3) impacts of the regulation on farm and forest land preservation.

Anyone wishing to submit written comments for the public comment file may do so by mail, email or fax to John Kennedy, DEQ Chesapeake Bay Program, P.O. Box 1105, Richmond VA 23218; phone - 804-698-4312; fax – 804-698-4116; [jmkennedy@deq.virginia.gov](mailto:jmkennedy@deq.virginia.gov). Comments may also be submitted through the Public Forum feature of the Virginia Regulatory Town Hall web site at: [www.townhall.virginia.gov](http://www.townhall.virginia.gov). Written comments must include the name and address of the commenter. In order to be considered comments must be received by 5:00 p.m. on the date established as the close of the comment period.

A public meeting will be held and notice of the meeting can be found on the Virginia Regulatory Town Hall web site. Both oral and written comments may be submitted at that time.

## Participatory Approach

*Please indicate the extent to which an ad hoc advisory group will be used in the development of the proposed regulation. Indicate that 1) the agency is not using the participatory approach in the development of the proposal because the agency has authorized proceeding without using the participatory approach; 2) the agency is using the participatory approach in the development of the proposal; or 3) the agency is inviting comment on whether to use the participatory approach to assist the agency in the development of a proposal.*

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The Board is using the participatory approach to develop a proposal. Persons interested in assisting in the development of a proposal should notify the department contact person by the end of the comment period and provide their name, address, phone number, email address and the organization you represent (if any). Any persons who want to be on the ad hoc advisory group are encouraged to attend the public meeting mentioned above. The primary function of the advisory group is to develop recommended regulation amendments for Department consideration through the collaborative approach of regulatory negotiation and consensus. Multi-applications from a single company, organization, group or other entity count as one for purposes of making the decision specified in the preceding sentence. Notification of the composition of the advisory group will be sent to all applicants.

## Family impact

*Assess the potential impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and*

*one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.*

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The direct impact resulting from the assignment of waste load allocations limiting the discharge of nutrients from wastewater treatment plants is for the protection of public health and safety. The adoption or amendment of these limitations may increase the cost of wastewater treatment at publicly owned treatment works, thereby increasing the user charges paid by residential and commercial customers, potentially decreasing the disposable family income.